

## New dilution refrigerator will heat up electrical research

Brian Murphy

**P**hysicist John Davis is counting the days until he takes delivery of equipment that will give the University of Alberta the distinction of having the coldest laboratory in Canada.

**"**The holy grail of superconductivity is to find a material that eliminates resistance at room temperature."

John Davis

Davis's U of A research focuses on low-temperature physics, and the refrigeration unit he's expecting in March can get just about as low as you can go on this planet: -273 C.

"That kind of temperature gives us access to superconductivity research, which is the transmission of electric current with absolutely no resistance," Davis says.

The fact that electrical flow is improved by lower temperatures has been known and studied since the early 1900s. Many Canadians have noticed that during deep cold snaps, their indoor lights may suddenly shine more brightly. The reason, physicists say, is that the chill dramatically reduces the electrical resistance in the power lines outside their homes.

Davis says superconductivity results in the complete elimination of resistance, which requires extremely low temperatures. "The dilution refrigerator on order from England is about 10 feet long and, towards the bottom, has a small compartment in which we'll place new materials we want to test," Davis says.

*Continued on page 3*

*Continued on page 3*

## All dolled up for the cold



Cool Stuff: The University of Alberta Museums Do Winter, which offers a glimpse into the U of A's many cold-inspired collections, runs until March 31 at Enterprise Square.

## \$1.3 million for U of A trial of gene therapy for eye disease

Raquel Maurier

**A** medical research team at the University of Alberta has received \$1.3 million to conduct a clinical trial of a gene therapy treatment for a rare eye disease that leaves men blind by their 30s.

**"**People have been waiting their whole lives for news like this—that a possible treatment to stop vision loss and restore vision could be a reality."

Ian MacDonald

Researchers hope the gene therapy will halt vision loss and possibly restore some vision for people living with the disease

"People with choroideremia have been waiting their whole lives for news like this—that a possible treatment to stop vision loss and restore vision could be a reality," says Ian

MacDonald, chair of the U of A's Department of Ophthalmology and an associate professor in the Department of Medical Genetics.

MacDonald says the trial wouldn't be possible without the five years of funding, which was announced March 2, that's being donated jointly by the Foundation for Fighting Blindness, the Choroideremia Research Foundation Canada and the Canadian Institutes of Health Research.

The clinical trial will be the first in Canada to look at gene therapy for a retinal degenerative disease, says Sharon Colle, president and CEO of the FFB.

MacDonald, one of only a few choroideremia experts in the world, sees patients from all over the world. His team's expertise made Edmonton a natural site to host the trial.

Choroideremia is caused by an inherited gene mutation that affects the retina, causing the slow breakdown of vision cells. It affects males almost exclusively because the defect is found on the X chromosome, although women who carry one of the mutations have a 50 per cent risk of having an affected son, according to the Foundation for Fighting Blindness.

One of the first symptoms of choroideremia is night blindness. This is followed by a gradual loss of peripheral vision that will eventually result in complete blindness. It's estimated that one out of every 50,000 Canadian males is affected.

Participants in the clinical trial, expected to start in late 2012, will undergo a surgical procedure in which a healthy gene is inserted underneath the retina, triggering the production of a protein that people with choroideremia don't have.

The first clinical trial of the same gene therapy started late last year in the U.K. Edmonton retinal surgeon and research team member Matt Tennant will travel to the U.K. to study the surgical technique and bring the expertise back to Edmonton.

The choroideremia trials build on technical advances developed in a U.S. gene therapy trial for another rare, genetic eye disease, Leber congenital amaurosis or LCA. The disease leaves children with such poor vision that they can barely navigate a small room.

Within weeks of receiving gene therapy treatment, children with LCA were able to see well enough to participate in normal childhood activities like playing catch. ■



UNIVERSITY OF ALBERTA  
CONFERENCE SERVICES

CONFERENCE CENTRE | ALUMNI HOUSE | CONFERENCE MANAGEMENT  
[www.ualberta.ca/conferenceservices](http://www.ualberta.ca/conferenceservices)

MEETINGS

# folio

## Volume 49 Issue 9

Office of the Vice-President  
(University Relations)  
Marketing and Communications  
6th Floor, General Services Building  
University of Alberta  
Edmonton, Alberta T6G 2H1

## Acting Editor

Michael Brown  
Michael.Brown@ualberta.ca

## Contributors

Richard Cairney, Michael Davies-Venn,  
Meryl Friedland, Matt Gutsch, Jamie  
Hanlon, Ryan Heise, Jennifer Kuchta,  
Ken Mathewson, Raquel Maurier, Brian  
Murphy, Michel Proulx, Isha Thompson,  
Kate Toogood, Erica Viegas

## Graphic Design

Marketing and Communications  
folio's mandate is to serve as a  
credible news source for the university  
community by communicating accurate  
and timely information about issues,  
programs, people and events and by  
serving as a forum for discussion and  
debate. folio is published 23 times  
per year.

The editor reserves the right to limit,  
select, edit and position submitted copy  
and advertisements. Views expressed  
in folio do not necessarily reflect  
university policy. folio contents may  
be printed with acknowledgement.

## Inquiries

Comments and letters should be  
directed to Michael Brown, acting  
editor, 780-492-9407  
Michael.Brown@ualberta.ca

## Corporate & Display Advertising

Deadline: Thursday, noon, one week  
prior to publication  
Debbie Keehn, 780-492-2325  
foliosads@ualberta.ca

## Classified Ads

Deadline: Thursday, noon, one week  
prior to publication  
Debbie Keehn, 780-492-2325  
foliosads@ualberta.ca

## Talks and Events

Deadline: Thursday, noon, one week  
prior to publication

Enter events online at  
[www.uofaweb.ualberta.ca/events/](http://www.uofaweb.ualberta.ca/events/)  
submit.cfm

## Circulation/Change of Address

Contact Debbie Keehn at 780-492-2325  
or via email at  
debbie.keechn@ualberta.ca

## Billing Info

Contact Fatima Jaffer at 780-492-0448  
or via e-mail at  
fatima.jaffer@ualberta.ca

ISSN 0015-5764 Copyright 2011



The University of Alberta maintains a database of all alumni. This database is used to send you news about the U of A, including folio and New Trail, invitations to special events and requests for support. On Sept. 1, 1999, post-secondary institutions were required to comply with the Freedom of Information and Protection of Privacy legislation of the province of Alberta. In accordance with this legislation, please respond to one of the following options:

Please keep my name, or  
 Remove my name from the folio list.

Name \_\_\_\_\_  
Signature \_\_\_\_\_

No response means the University of Alberta assumes an individual wishes to remain on the mailing list.

## Looking to take the punch out of salt

Michel Proulx

University of Alberta researchers have received \$340,000 to conduct trials on a flavour enhancer they hope will help reduce North Americans' sodium intake.

The team has come up with a way to manufacture a healthier form of "kokumi," which the

who heads the team which includes Michael Ganze, Andreas Schieber and Maurice Ndagiijimana.

"Because the kokumi amplifies the taste of the salt, it allows foods to have much less salt and be better for you, without sacrificing the flavour. Done right, most consumers wouldn't know the difference."

The U of A team has developed a process for manufacturing kokumi that is cleaner and more efficient than traditional methods of production, which can create unhealthy byproducts. Although there are other flavour enhancers that food manufacturers can use to replace salt without sacrificing flavour, kokumi is considered the best because of its mildness and its impact on taste.

The researchers took proteins from low-value parts of poultry, fish and vegetables to create molecules that have kokumi characteristics. They broke the proteins from the various sources into their component fragments, then selected specific fragments and mixed them with sugars. But instead of using the usual heat-transfer process to create the kokumi molecules, the U of A team used a fermentation process that dramatically reduces the unwanted byproducts and makes the process more cost-effective.

Plans are now underway to use the funding to conduct sensory and taste trials to fine-tune the technology.



Mirko Betti shows a traditional kokumi product in his left hand and, in his right, the cleaner kokumi product his team created with a more efficient technology.

The potential for the kokumi market is staggering, given the ill effects associated with overconsumption of sodium in the North American diet.

According to Health Canada, Canadians consume twice the amount of sodium they need every day. While it's an essential part of a healthy diet, too much sodium can increase the risk of high blood pressure, stroke, heart disease and kidney disease. Overconsumption of sodium has also been linked to increased risks of osteoporosis, stomach cancer and severe asthma.

Funding provided by the Alberta Livestock and Meat Agency and Alberta Innovates – Bio Solutions gives the team a two-year window to conduct the trials and refine its technology to eventually patent and sell it. ■

**"Because the kokumi amplifies the taste of the salt, it allows foods to have much less salt and be better for you, without sacrificing the flavour."**

Mirko Betti

Japanese have identified as the sixth basic taste alongside salty, sweet, sour, bitter and "umami" (savoury). Kokumi translates as "heartiness" or "mouthfulness" and are compounds in foods that don't have their own flavour but enhance the flavour of other foods.

"Hopefully, we'll be able to significantly reduce the sodium in several food products by replacing it with the kokumi we developed," says Mirko Betti,

## A breakthrough in prion research shows every bug has an Achilles heel

Richard Cairney and Kate Toogood

When it comes to infectious agents, it doesn't get much worse than prions. These misfolded proteins are highly resistant to a wide variety of extreme disinfectant procedures. They have been identified as the culprits behind mad cow disease and chronic wasting disease in animals and humans, and are also implicated in Creutzfeldt-Jakob disease and other prion-related disorders.

But an interdisciplinary University of Alberta research team has come a step closer to finding a way of inactivating these highly infectious proteins.

The team, led by environmental health professors Mike Belosevic and Norm Neumann from the School of Public Health and engineering professor Mohamed Gamal El-Din from the Department of Civil and Environmental Engineering, has demonstrated for the first time that prions are highly susceptible to molecular ozone.

The discovery could have implications for decontaminating medical and dental surgical instruments or treating water and wastewater in settings where prions might appear, such as in slaughterhouse waste.

**"We have the expertise in microbiology and engineering to make a difference. The ultimate goal is to protect the health of people as well as the environment."**

Gamal El-Din

"Although we know that they have a very high-level resistance, it's possible that we've discovered their Achilles heel," said Neumann.

"This means there might be simple solutions to dealing with contaminated medical instruments and waste products from slaughterhouses."

Human transmission of these devastating infectious agents through patient exposure to surgical equipment and blood transfusions has

been documented. If these proteins can be neutralized, the result will be improved patient care.

"Because ozone is already commonly used in the hospital environment, the technology for this

Neumann. "We need more research in this area to increase our understanding of the relationship between ozone and all types of prions, including bovine spongiform encephalopathy or BSE, and that's what we're working on now."

The interdisciplinary nature of the research proved to be crucial to the success. "Nobody has really taken the biological diagnostics and methods and then applied them in the engineering context, and that's what we did here," Neumann says.

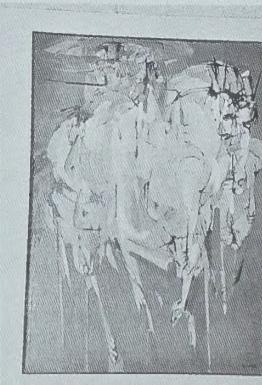
The importance of the interdisciplinary approach to this research is echoed by Gamal El-Din. "We have the expertise in microbiology and engineering to make a difference. The ultimate goal is to protect the health of people as well as the environment."

However, there is still much work to do. "The only proof of final inactivation is to actually infect animals, and it may take years for the animal to start demonstrating the behavioural changes associated with these diseases caused by prions," says

The research was funded in part by the Alberta Prion Research Institute, PrioNet Canada and the Natural Sciences and Engineering Research Council of Canada and published in the February issue of the journal *Applied and Environmental Microbiology*. ■

## Are You a Winner?

Congratulations to Rob Lake for correctly identifying the Sports Wall of Fame located in the Van Vliet Centre. For his correct identification, Rob has won a pen with a pullout map of the Centennial Centre for Interdisciplinary Science. The prize this week is the sought-after Butterdome butter dish, circa 2008. To win, simply identify where the object pictured is located and email your answer to [folio@ualberta.ca](mailto:folio@ualberta.ca) by noon on Monday, March 12, and you will be entered into the draw.

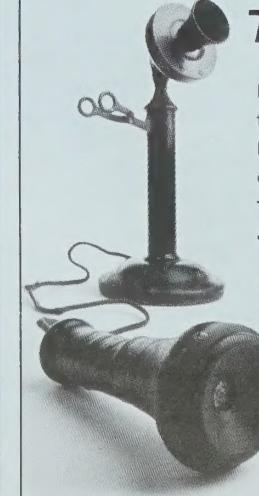


UNIVERSITY OF ALBERTA | 1912 | 2012  
FACULTY OF EXTENSION

## TWEET!

It took 100 men with shovels to dig the basement of Assiniboia Hall in 1911. In 1912, Extension was founded and its offices were in that basement.  
100 men, 100 years...  
Just coincidence?

(We've been touching lives for 100 years)



follow us on @extensionis100



100yearsofextension.ca

# Killam winner gets students into lab at light speed

Ryan Heise

**C**anada or Brazil? That's the choice electrical and computer engineering professor Abdul Elezzabi had to make 25 years ago when he received a scholarship to study outside his native Libya. He ultimately chose Canada, but Brazil would sneak up on him from time to time.

"Throughout the year I'd get postcards from my friends who went to Brazil. They'd be on the beach and I'd be up in Canada experiencing winter," he says with a laugh. "But it came down to studying in English or Portuguese, and I figured English would be more valuable."

**I want to get [fourth-year undergrads] in the lab doing things, because in the classroom you have boundaries—by the curriculum, by time."**

Abdul Elezzabi

Elezzabi has been awarded a Killam Annual Professorship for the 2011-12 academic year. The award is based on scholarly activities such as teaching and research, as well as service to the community beyond the university. He's been at the U of A for 16 years now and noted that it was a Killam award that got him here.

"You know, I'm at the U of A because of the Killam award I received in 1996 as a post-doc. I used that money to buy my first laptop: an NEC, 82 megahertz."

Since then, Elezzabi has received the U of A's Rutherford Teaching Award and the Faculty of Engineering Undergraduate Teaching Award, has become a Canada Research Chair, and has helped establish the U of A chapter of SPIE, the international society for optics and photonics. But he says this Killam award, and the awards that came before it, are about recognition more than anything else.

"It's not about the money, because it's not really significant. It's about the university and the Killam Foundation recognizing the contributions of the person they invested in. They're saying, 'You're not just a person in the lab; we're aware of your presence here.'"

Even then, Elezzabi is quick to note that receiving the award isn't due to his efforts alone.

"I'm not going to take credit for the work my graduate students do. They make my research possible."

That research currently focuses around ultrafast optics and nanophotonics, specifically light interaction and phenomenon at very small time scales of one quadrillionth of a second. Electrons don't even move at these speeds.

"Interaction with light at this scale is very different," he explains. His work ranges from the practical—using laser pulses to perform single-cell therapy—to the theoretical, such as developing nanoscale electron execrators. His next big project is to tackle nerve regeneration.

"We can chop a single cell in to small pieces, perforate it, put DNA in it. So we have an idea for 'welding' nerves using a similar technique." Doing high-level research for nearly 15 years and also teaching requires a delicate balance, but Elezzabi says the key is to realize they complement one another.

"My goal is to take a fourth-year undergraduate student and, in three or four months, get them to think like a junior graduate student. I want to get them in the lab doing things, because in the classroom you have boundaries—by the curriculum, by time."

"So it really is about bringing the two [research and teaching] together as much as possible, and I really wouldn't be happy doing only one or the other."

Even with his strong commitment to academia, distractions do arise. Last year's uprising in Libya weighed heavily on him. "It wasn't an easy thing to go through," he says about being away from his home country and extended family during the revolution. "For almost eight months, I couldn't keep my mouth shut about it. But it was a different time. I'm not paid to be a freedom fighter."

Still, Elezzabi did not sit idly by. He helped set up the Libyan-Canadian Friendship Association. They held rallies, spoke with the media, raised money and sent medical supplies. They're now trying to see if they can bring injured children from Libya to Canada to be treated by specialists.

"I can't imagine the effect on the people," he says, adding that he plans to go back to Libya this summer for the first time since 2007. ■



Abdul Elezzabi

## New super-cold fridge on the way

Continued from page 1

The equipment looks nothing like the refrigerator in your kitchen. It's a three-metre-long tube suspended by a hoist and hanging in a special compartment beneath the basement floor of the university's Centennial Centre for Interdisciplinary Sciences. "The compartment is completely separate from the building," Davis says. "That eliminates the vibration and electrical or magnetic interference that affects the rest of CCIS." One goal of superconductivity experiments is to find materials that one day could be made to work with zero electrical resistance at more practical temperatures.

"The holy grail of superconductivity is to find a material that eliminates resistance at room temperature," Davis says. "That's when superconductivity could have applications for everyday life."

Davis has been working closely with technicians at Oxford Instruments, a maker of high-tech tools and systems for research and industry, on the final design of the dilution refrigerator. If the work and projected delivery times stay on schedule, he expects that he and his students will be running low-temperature experiments by late this summer.

While some researchers are looking at futuristic superconductivity applications such as magnetic levitation devices, Davis envisions something with a wider benefit. He says that superconductors on large-scale power grids could dramatically lower world power consumption. "And that technology is within sight." ■



John Davis's team will use new refrigeration equipment to propose practical applications for superconductivity.



## Canada Council for the Arts: Killam Prize and Fellowship Information Session

Wednesday, March 7, 2012  
10:30 - 11:30 a.m. (general presentation)  
164 Education South

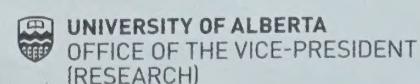
You're invited to a presentation by representatives from the Canada Council for the Arts who will be visiting the University of Alberta to provide information about the Killam Research Fellowships and Killam Prizes competitions for academic staff ([www.canadacouncil.ca/prizes/killam/](http://www.canadacouncil.ca/prizes/killam/)).

These Fellowships and Prizes are open to candidates from ALL disciplines, and they are among the most prestigious Canadian research awards.

This is a valuable opportunity for potential candidates, nominators, and administrators to ask questions and get more details about how to create the strongest possible Fellowship application or Prize nomination.

The presentation will start at 10:30 a.m., followed by private individual meetings with the Canada Council representatives (if requested).

Please RSVP to Kate Ballash, Office of the Vice-President (Research), at [kate.ballash@ualberta.ca](mailto:kate.ballash@ualberta.ca), by Monday, March 5, if you will be attending the general session. If you would like to book a 10-minute private meeting following the presentation to discuss a specific nomination or application, please contact Kate to arrange this.



## Festival of Teaching: A business class that sings

Erica Viegas

**W**hen Guillaume Tardif was completing his executive master of business administration degree, the term "business culture" was often mentioned. Tardif, an internationally renowned violinist and associate professor of music, could not help but link music culture and business culture. How does art create structures that motivate business? What business skills do artists require, and how does the business world foster creativity?

These are some of the questions explored in his new course, Culture and Creativity: Music and Business Perspectives, which challenges undergraduate and graduate students from business and arts to think about culture in a new way. The course is funded by the Kule Institute for Advanced Study.

"I remember thinking in an economics class that money can't always be the unit of measuring utility," says Tardif. "How can we evaluate an artist's impact to society by some sort of standard, when the money they earn does not always correlate with the contribution they make to a community?"

Tardif says supply and demand are business concepts artists have to

deal with, especially in the age of the Internet, when art, music and ideas can be distributed easily, often resulting in oversaturation of the market.



Setting yourself apart, both in business and in art, often means learning to market your skills effectively.

Students taking the course learn about design, adapting technologies for music and business, the impact of copyright and digital technology, and the importance of looking at business problems in creative ways. The course is even graded in

a way that fosters creativity: Based on discussions, readings and videos, students are asked to create an ongoing blog on culture and a final poster project that may be presented at the Festival of Teaching.

"We are in a society that is always searching for meaning. Can we open our minds to new cultural aspects, or new ways of working, and experience options that we may have never thought about?" Tardif asks.

This spring, in partnership with the Wirth Institute, Tardif will have another opportunity to expose students to his course—as a visiting professor at the University of Innsbruck.

"The objective is to create a sense of competence when talking about business in its cultural aspects and to develop strategies for creativity in the workplace," Tardif says.

"I want these students to come out of the course as critical thinkers and leaders who bring depth to the solutions they offer to our community."

For more information on festival events, go to page 11. ■

# One person's garbage is another's family history, a nation's treasure

Michael Davies-Venn

**F**or the first time ever, family portraits of two men who helped shape present-day Canada will be on public display more than 25 years after they were pulled out of a dumpster.

Portraits of Charles Tupper, Canada's sixth prime minister and Confederation Father, and James MacDonald, legal adviser to the Fathers of Confederation, will form part of *Serendipity: Unveiling the Historical MacDonald-Tupper Photographs*, which opened at the University of Alberta's Faculty Club Feb. 29.

Wayne MacDonald, government studies program manager at the Faculty of Extension and a direct descendant of James MacDonald, found the images in 2003 stacked against a wall in an antique store in Winnipeg while taking time off for a conference to look for a Mother's Day gift for his wife.

"I saw this portrait sitting up against a wall. And I immediately recognized them as my relatives," said MacDonald. "I was absolutely flabbergasted."



Wayne MacDonald sits with items from *Serendipity: Unveiling the Historical MacDonald-Tupper Photographs*.

The 18 portraits had been found in a dumpster in 1978 after a relative of MacDonald, Emma Tupper-Harris, died. Tupper-Harris's landlord sold some of the portraits to an antique dealer and threw the rest away. MacDonald says, thankfully,

the antique dealer returned later to retrieve the portraits after being admonished by her mother. "(The antique dealer) climbed into the dumpster and handed out the 18 damaged portraits to her mother and transported the portraits to a dry storage bin," he says. "They

stayed in that storage bin from 1978 until I came to the conference in 2003."

It took two people to move the three-feet-high packed portraits. Getting that oversized luggage home was MacDonald's next challenge, after successfully sealing the deal with the antique dealer for all 18 portraits.

Back in Edmonton, MacDonald, an avid antiques collector, got to work restoring the portraits. It was a labour of love, he says, that took him almost a decade to complete. MacDonald says it's a privilege to bring the images to public.

"I don't believe that you can ever understand who you are or what your country is if you don't know where you came from," says MacDonald. "They're pictures that you'd never, ever imagine having access to. It's kind of like having a window into your past."

Former deputy prime minister of Canada Anne McLellan will attend the exhibition, which includes pictures of the entire Tupper family, a confederation ball in Charlottetown in 1864, the investiture of the governor general and the Marquis of Lorne in Halifax at Province House in 1878. ■

## Metals research heats up with grant

Richard Cairney

**M**aterials engineering professor Hani Henein has been awarded funding for research generating knowledge about new metal alloys that are strong, light and affordable.

Henein and his research team are creating novel metals by experimenting with different alloy mixtures and allowing them to solidify rapidly. In Henein's lab, droplets of the melted alloy mixtures are poured through a strainer into a microgravity environment. The droplets fall about four metres through a chamber filled with an inert gas and solidify rapidly.

This rapid solidification is a key process, Henein says, because it causes the alloys to develop unusual properties. The outcome is that different ingredients in an alloy mixture are more evenly distributed at the molecular level. For example, Henein and his team, in collaboration with industrial partner Novelis and collaborators at the École des Mines de Paris, want to add an

expensive metal called scandium to an aluminum-based alloy in order to increase the alloy's strength.

Traditionally, industry has shied away from using scandium because of its high cost. But rapid solidification mixes the metals more thoroughly than traditional techniques, increasing its effectiveness while reducing both the amount of scandium required and the costs, Henein says.

"It has been shown that scandium can improve the mechanical properties of aluminum by an order of magnitude with just a small addition," he says. "You can consider making micro-additions to an alloy because the fact that you rapidly solidify it allows you to supersaturate it—there will be more scandium in the crystal structures of the aluminum than you'd see under normal conditions."

"Our objective is to determine how small an amount of scandium can be added in order to have a maximum impact on an alloy's properties, so you get maximum benefits for minimum costs." This

can be a game changer for the automotive and aerospace industries.

In his lab, which resembles a small industrial plant, Henein and his team are also able to delicately moderate the solidifying process and cast the mixture into a strip of metal. This process is easily scaled up to an industrial manufacturing level.

The research is an ideal fit with the Strategic Project Grant he has just been awarded from the Natural Sciences and Engineering Research Council. Henein's award is worth more than \$340,000. The goal of the grants is to increase research and training in areas that could influence Canada's economy, society or environment in the next 10 years.

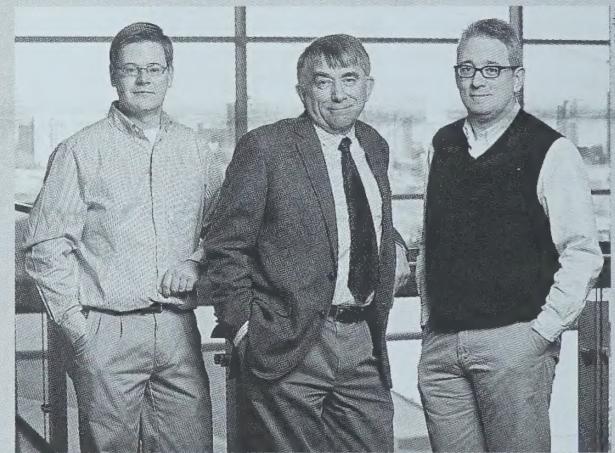
A total of seven U of A researchers were awarded close to \$3 million in Strategic Project Grants funding. Henein, Ken Cadien in the Department of Chemical and Materials Engineering and Venkata Dinavahai from the Department of Electrical and Computer Engineering were awarded a combined total of \$1.2 million. ■



Hani Henein has been awarded a \$340,000 NSERC grant that supports research to increase the world's knowledge about metal alloys.

## Vaccination research centre gets \$250,000 shot in the arm

Brian Murphy



(From l-r) John Klassen, David Bundle and Todd Lowary of the U of A's Department of Chemistry have received the Brockhouse Canada Prize for Interdisciplinary Research in Science and Engineering.

**T**hree University of Alberta researchers are part of a five-person team that won the prestigious Brockhouse Canada Prize for Interdisciplinary Research in Science and Engineering. David Bundle, Todd Lowary and John Klassen from the U of A's Department of Chemistry were honoured, along with collaborators Ken Ng and Glen Armstrong from the University of Calgary, at a ceremony in Ottawa Feb. 27.

The five senior members of the Alberta Glycomics Centre were recognized by the Natural Science Engineering and Research Council of Canada for their efforts to develop vaccines for infectious diseases such as *E. coli*, tuberculosis and *Clostridium difficile*.

"We feel extremely honoured and proud to receive NSERC's premier award for interdisciplinary research," says Bundle. "The award validates our performance and the support and investment of the university and province of Alberta in creating the Alberta Glycomics Centre."

The team's current work on *Clostridium difficile*, a major killer in hospitals, includes the cross-disciplinary tasks of bio-analytical mass spectrometry, synthetic chemistry, crystallography and microbiology.

U of A team member Lowary says the Brockhouse prize and grant of up to \$250,000 also allows for the acceleration of the team's work designing novel vaccines for preventing tuberculosis.

"I lead a project related to tuberculosis," says Lowary. "Our studies are directed at understanding how carbohydrates on the surface of the bacterium that causes this disease interact, or communicate, with the human immune system."

Klassen, whose specialty is mass spectrometry, has helped the team with verification of important binding sites of the *E. coli* toxin. "The multidisciplinary aspect of our team has given us a real boost for the analytical needs of our research, and the award will help us open new doors in the search for new vaccines," says Klassen. ■

# Top scholars on issues of disability and sport team up at the U of A

Michael Davies-Venn

**T**wo University of Alberta researchers are teaming up to find answers to long-standing issues around disability.

Danielle Peers, a physical education and recreation PhD student, and Rob Wilson, a philosophy professor, say that by bridging disciplines, they will create a space where others can participate to help find solutions to some of the socio-political issues around disability.

An example is a workshop they organized in February called Disability, Sport & Ableism: From Pistorius to Para-Olympism: Contentious Paralympic Issues. It brought to the U of A leading scholars from around the world working on issues of disability and sport. Wilson says the meeting provided researchers within the university's community a chance to connect with colleagues.

"We want to change some minds and get people to think critically."

But, importantly, it's about creating that positive space and getting people together who might not have heard of each other or don't realize they're working on things that are related," Wilson says. "And that's the cross-fertilization in these different areas, and that's what exciting."

Peers says the juncture of sport and disability hasn't had a critical focus before. "Sport is never taken up by people who study disability. And people who take up studies in sport don't study disability—not in a critical way. As a result you have this very medical view," she says.

And because of that perception, the question is often asked, "how do we fix disability?" says Peers, a Vanier and Trudeau Scholar. "Disability is always seen as a problem—it's a medical problem needing rehabilitation, a population problem needing sterilization and a political problem needing human rights."

In popular culture, Peers says, representations of disabled athletes have made a huge contribution



Danielle Peers

It allows people to ignore the social realities or think of it as a matter of individual achievement."

More than 80 per cent of women with physical disabilities have been sexually assaulted in their lives. Forty-three per cent of people with disabilities in Canada are unemployed and, of those who are employed, there's a vast majority who are underemployed. These are the social realities faced by people with disability, Peers says.

"The litany of statistics of people living with disability shows that it's not a trivial problem to solve and that's partly because disability has been so much out of the mindset as we built our cultures," says Wilson, who is also director of Living Archives on Eugenics in Western Canada, a project funded by the Community-University Research Alliances that aims, in part, to highlight the history of eugenics in Canada.

Turning the mindset about disability around would require

new ways of thinking, says Wilson. The creation of a community of researchers working on issues connected with disability is a good step forward. "Generally, philosophers can bring more piercing critical tools to a set of ideas and practices. They can point out inconsistencies and challenge assumptions that people just haven't noticed before. And not just in abstract ways," he says.

"We can engage in meaningful discussions in very concrete ways that people who're making policies, decisions and plans will have to grapple with. They may not have thought about it this way before."

## Researcher 'mussels' in on award

Brian Murphy

**T**he tide has begun to turn in the fight against invasive water-borne creatures.

University of Alberta researcher Mark Lewis, a leader in the field of mathematical modelling, received



Mark Lewis

one of seven national 2012 Killam Research Fellowships, which will allow him to focus on the ongoing war in the water against harmful invasive animals like the zebra mussel.

The prestigious recognition comes with a prize of \$70,000 a year over two years that enables recipients to get out of the classroom.

"It's a great honour, and it gives me time to focus on my research," says Lewis. His specialty is making mathematical models that account for every step in an invasive species' takeover of a body of water. "We assign numerical values to everything from the tainted ballast water in a ship that carries an invasive species, to the cost of fighting the problem," says Lewis.

Lewis cites the zebra mussel that spread from Europe to Canada's Great Lakes as a costly invasive species. Zebra mussels were introduced to the lakes, likely by commercial vessels, and quickly edged out native species in those lakes to the extent that they were blanketing open surfaces and even clogging drainage pipes.

Lewis will be working closely with Fisheries and Oceans Canada and says he looks forward to the challenge. "We're hoping to come up with a predictive model for invasive species that will give us the ability to respond quickly when a new invasive species is found in a Canadian waterway," says Lewis. "Speedy decision-making is vital to controlling an invasive species, and we need to build that capacity even before we know who the next invader is."

\$29.95  
\$ Save big\*

For just \$29.95, walk in with your taxes, walk out with your refund. Instantly. You'll also get a free SPC Card to save big at your favourite retailers.\*

instant  
cash back  
& free SPC Card

we make  
taxes painle\$\$

H&R BLOCK®

Follow us on Twitter and Facebook

hrblock.ca | 800-HRBLOCK (472-5625)

© 2012 H&R Block Canada, Inc. \*\$29.95 valid for regular student tax preparation only. Cash Back service included. To qualify for student pricing, student must present either (i) a T2202a documenting 4 or more months of full-time attendance at a college or university during 2011 or (ii) a valid high school identification card. Expires July 31, 2012. Valid only at participating H&R Block locations in Canada. SPC Card offers valid from 08/01/11 to 07/31/12 at participating locations in Canada only. For Cardholder only. Offers may vary, restrictions may apply. Usage may be restricted when used in conjunction with any other offer or retailer loyalty card discounts. Cannot be used towards the purchase of gift cards or certificates.

# Howie's house: Women's hockey's biggest stage coming to Clare Drake

Matt Gutsch

**H**owie Draper doesn't have a nickname. But as the only head coach in the history of the Golden Bears and Pandas athletics to have seven national championship rings, he could easily be called "Knuckles."



Howie Draper

In his 14 seasons as head coach of the Pandas women's ice hockey team, Draper has presided over more national championship teams than any other U of A coach in any other sport. That's also more than any other women's hockey team in the history of Canadian Interuniversity Sport.

But on March 8, Draper will accomplish something he has never done in his storied career: he will host the national championship he has won more than any other coach.

The CIS women's hockey championship will pit six of the best women's hockey teams in Canada against each other for the Golden Path trophy.

"We're very excited to be hosting for the first time in program history," says Draper. "We've travelled to a lot of national championship tournaments in the past, so for us to have the opportunity to host the best in CIS, and to do what we always set out to do, which is be the best ourselves, is a real special challenge that we're all looking forward to."

Women's hockey was added to the stable of Golden Bears and Pandas athletics in 1997 as part of a movement to develop, support and promote women's sport in Canada, a movement spearheaded by then-athletics director Ian Reade. From 1998 until 2007, the University of Alberta collected 18 national championships in women's sport, including six by the Pandas hockey team.

But Draper believes that despite the success, the timing wasn't right back then for the team to host the championships.

"I think the time is right for us to host now, at this point in our program," he says. "I personally believe that, in the past, there were other conferences and other schools that could benefit by hosting the national championship and bringing that attention to their programs."

"Now, I think we're at a point where all the other conferences are competitive and strong and more and more teams are becoming competitive for the national championship, and certainly with the success our program has had in the past, I think the time is right for that attention to come our way."

The benefits of hosting the national championship are numerous. The host team,



Pandas hockey is the most decorated women's hockey program in CIS history.

first and foremost, has a guaranteed berth into the tournament and a shot at competing for glory on home ice before family, friends and supporters. That sort of benefit obviously affects the current team, but Draper hopes it also has farther-reaching benefits.

**With the success our program has had in the past, I think the time is right for that attention to come our way."**

Howie Draper

The puck drops on the CIS women's hockey championship on Thursday, March 8, at 3:30 p.m. at the Clare Drake Arena. Game times are 3:30 p.m. and 7 p.m. on Thursday, Friday and Saturday. Sunday's gold medal round begins with the fifth-place game at 11 a.m., followed by the bronze medal game at 2 p.m. and the gold medal game at 6 p.m.

The Pandas will be joined by one other team from Canada West, as well as two teams from the Quebec conference and one team each from Ontario and the Atlantic provinces. Fans can expect Montreal's McGill University to be a strong contender to attend. Other strong contenders are the Wilfrid Laurier Golden Hawks, ranked No. 1 for part of this season, the Ottawa Gee-Gees and either the St. Francis Xavier X-Women or the Moncton Blue Eagles. ■

"Hopefully, hosting this championship will raise the profile of our program, of CIS women's hockey and of women's hockey across Canada."

## Finding out what's so cool about the cold

Jennifer Kuchta

**F**rom dinosaurs and dogsleds to hibernating butterflies and a whalebone sculpture, the University of Alberta Museums collect a lot of cool stuff.

In that vein, the university presents Cool Stuff: The University of Alberta Museums Do Winter, which gives a glimpse into these collections. Cool Stuff, at Enterprise Square until March 31, features more than 350 museum objects selected from among the U of A's 29 outstanding museum collections.

"In celebration of Edmonton as a winter city, we've chosen to look at our collections through the lens of winter, ice and snow," says Janine Andrews, executive director of the U of A Museums. "We have juxtaposed some really interesting objects in an exhibition that plays with northern light, winter colours and below-ice sound and video."

Highlights of the exhibit include mammoth bones, meteorites, an ancient Egyptian textile, a Chinese Imperial robe, a narwhal tusk and some inspiring artwork including Inuit prints and Group of Seven paintings. The event will also feature noon-hour talks by world-renowned researchers and curators, as well as the Explorer's Exhibition Guide family activity and a school program linked to Grade 1 curriculum called The World of Winter, held Fridays by appointment.

Cool Stuff is open to the public Wednesdays through Saturdays from 11:30 a.m. to 6 p.m. and



Cool Stuff: The University of Alberta Museums Do Winter runs until March 31 at Enterprise Square.

Thursdays until 9 p.m. Admission is by donation. For more information, call 780-492-5834 or visit [museums.ualberta.ca](http://museums.ualberta.ca).

"(We at U of A Museums are) honoured to be a part of the vibrant downtown revitalization

and excited to be able to bring some cool stuff and conversation to our community," says Andrews. "I think what visitors will take away from this exhibition is that our collections are spectacular and diverse." ■

### Cool Stuff noon-hour series

Learn about the people and stories behind the objects at our noon-hour series: All programs run 12:15 to 12:45 p.m. No pre-registration is required, but space is limited so arrive early.

- Chris Herd, March 7, "When Meteorites Fall on Snow: Unique Scientific Opportunities"
- John Acorn, March 15, "Nature in Winter in Edmonton"
- Jeremy Rossiter, March 23, "Winter Through Roman Eyes"
- Jim Corrigan, March 29, "Curating Cool Stuff"

# New book celebrates polar bears and increases awareness

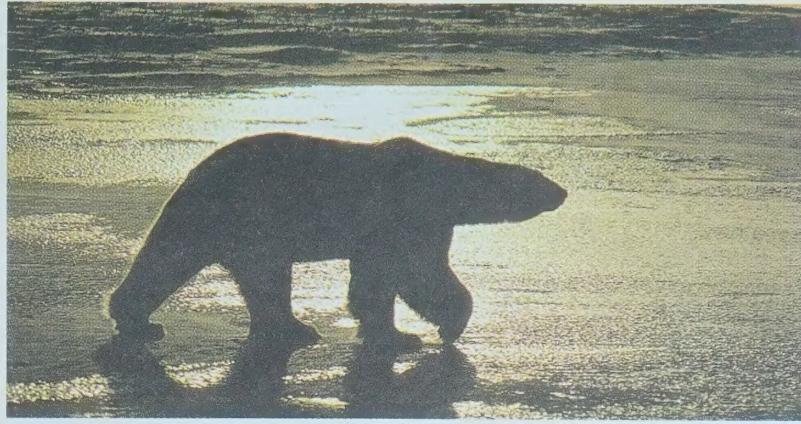
Brian Murphy

The celebrations surrounding International Day of the Polar Bear Feb. 27 included a book launch in Edmonton by one of the world's leading experts on the animal.

University of Alberta researcher Andrew Derocher's new book, *Polar Bears: A Complete Guide to Their Biology and Behavior* (Johns Hopkins University Press), is the product of almost 30 years of Arctic field work. Derocher's insights are accompanied by 153 photos taken by his longtime colleague and internationally renowned wildlife photographer, Wayne Lynch.

Despite the already well-publicized fact that global warming could drive polar bears to extinction, Derocher says the book is not a "eulogy" for the species, but a "celebration of its uniqueness."

From its evolutionary roots in the Irish brown bear to the polar bear's favoured diet of seals, Derocher says he strived to fill the book with interesting polar bear facts and perspectives that allow the reader to



Andrew Derocher's new book, "Polar Bears: A Complete Guide to Their Biology and Behavior," celebrates the species, in part, by examining little-known facts, one of which is that the polar bear's skin is black.

understand how the species thrives in such a brutal environment.

Derocher says one little-known fact about the polar bear is the Arctic predator isn't interested in seal meat, but rather the blubber. "All that fat offers the polar bear the maximum calorie intake per kill," says Derocher. "Seal

blubber almost has the energetic equivalent of heating oil.

"It's all about survival—meat is protein, and that requires the bear to eat snow to excrete the nitrogenous wastes. As everyone knows, eating snow is a good way to lose energy, and that's counter to what a polar bear wants."

Another interesting fact is that a polar bear's skin is "as black as its nose," says Derocher. It's also notable that cubs are born with pink skin, but why it transforms is still a mystery.

When he talks about the polar bear's Arctic world, Derocher says keeping the tone of the book positive was a challenge.

"We have to talk about global warming and the disappearance of the sea ice because that ice is key to the polar bear's existence," he says.

Canada, says Derocher, has a special responsibility for the polar bear's future. There are 19 polar-bear populations across the Arctic, and 13 of them are in Canadian territory. "If the polar bear can hang on until the end of the century, there's hope we can get the global temperature turned down," says Derocher. "But until then, we're forcing them further and further north as the sea ice retreats."

Derocher hopes his fascination with polar bears rubs off on some readers. "It seems we only care about things we know about, so hopefully the book will engage readers and more people will commit to ensuring the polar bear has a future." ■

## Phytola gets new lab, consolidates research

Ken Mathewson

A new \$1.5-million, state-of-the-art lab is opening up a world of possibilities for the Alberta Innovates – Phytola Centre.

"The new space will facilitate more effective interactions among Phytola researchers," scientific director Randall Weselake said on the occasion of the lab's opening late last January. "It will also allow research activities to expand as the research and development activities of new industrial partners come into play."

The new facility, located in the Agriculture/Forestry Centre, provides the researchers with state-of-the-art technology and equipment but, more importantly, with an environment more conducive to collaboration.

"It brings our group together, consolidating our research activities in one place," explains Chris Kazala, Phytola team member and manager of the university's Bioactive Oils program.

The new facility was built thanks to funding from the University of Alberta, which invested more than \$300,000 in the facility, as well as the Canada Foundation for Innovation and the Alberta Science and Research Investment Program, which each contributed roughly half of the remaining \$1.2 million.

Weselake's team focuses on numerous aspects of bioactive oils, including the development of

innovative techniques for increasing seed oil content, the use of plant oils in place of petroleum products and the creation of a high-value, omega 3-enriched nutritional supplement for poultry and aquafeed.

**"The new space will facilitate more effective interactions among Phytola researchers. It will also allow research activities to expand as the research and development activities of new industrial partners come into play."**

Randall Weselake

For example, one project the team is working on is increasing canola's seed oil content from 43 to 45 per cent. Although that amount may seem somewhat slight, every one per cent increase in seed oil content adds approximately \$90 million to the value of the canola industry, according to Weselake.

"Better enjoy it while you can," jokes Weselake, "because this is the last time you'll be allowed to eat in the lab." ■

## Students bring Arctic research out from the cold at conference

Jamie Hanlon

Students and staff from the University of Alberta's Canadian Circumpolar Institute received anything but a chilly reception at the American Association for the Advancement of Science conference Feb. 16-20 in Vancouver.



Joel Pumple

Visitors to AAAS Family Science Days got a fascinating glimpse into U of A research being conducted in both polar regions.

An interactive screen linked visitors to researchers and projects, providing information, images and videos of their work. One display showed the effects of thawing permafrost on buildings and structures in the North. Another showed a graphic representation of sea ice melting over the last 50 years. U of A grad student Alec Casey and undergrad Joel Pumple provided context and explanation.

The presentation was organized and arranged in co-operation with Telus World of Science. Anita Dey-Nuttall, associate director of research advancement for the Canadian Circumpolar Institute, says it was an excellent example of the U of A's memorandum of understanding with Telus in action.

Furthermore, the presentation was an outcome of both faculty members and the Circumpolar Students' Association volunteering to communicate to the general public the science being done in the polar regions," she said. "Our research stories were brought alive on the interactive screen by a program created and developed by an exceptionally talented undergraduate student volunteer, Tobias Tan, who is also a member of the CSA executive."

David Hik, acting director of the Canadian Circumpolar Institute, took part in a five-person panel on interdisciplinary research. Hik's presentation focused on advances made during the International Polar Year and the way they are shaping the planning of long-term polar research.

Hik said the U of A's participation in the American Association for the Advancement of Science conferences is crucial.

"It was very important for the University of Alberta to be visible at the meeting," he said. "All the big funding agencies were there, and many international science leaders." ■

### RE/MAX Real Estate Centre

Ann Dawrant



www.anndawrant.com

- 26 years as successful residential realtor specializing in west and southwest Edmonton
- Consistently in top 5% of Edmonton realtors
- Member of prestigious RE/MAX Platinum club
- Born and raised in Buenos Aires and has lived in Edmonton since 1967
- Bilingual in English and Spanish

"Call me to experience the dedicated, knowledgeable, and caring service that I provide to all my clients."

ann.dawrant@hotmail.com • (780) 438.7000 or (780) 940.6485



Be seen

folio  
UNIVERSITY OF ALBERTA  
classified ads



Alec Casey

# Undergrad finds graffiti in Pakistan can be a matter of life and death

Isha Thompson

The details of Mustafa Farooq's research are written on the wall.

The political science honours student has been awarded with a

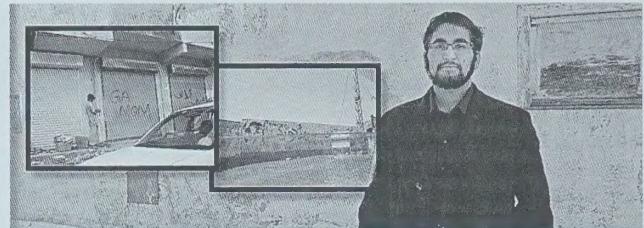
The idea to explore political graffiti grew from a trip to Pakistan during the summer of 2010. Farooq was part of a relief organization that helped restore the region, devastated by floods. He immediately noticed how many public walls,

to claim specific areas within a region, says Farooq, a fourth-year undergrad.

"This particular graffiti was overtly political, in the sense that it was promoting one party, putting down another party, calling on American materialism in the region, calling out the effects of radical misinterpreters of the Islamic faith," explains Farooq, who snapped more than 300 photos of the graffiti during his travels.

The Pakistani flag was a popular graphic on peoples' homes in areas such as Swat Valley, he says. The flag represents solidarity with the Pakistani army and not the Taliban militant group, whose members are often sought out by the government.

"I met a baker who was blacklisted because his uncle used to run errands for one of the Taliban people in the area. When the floods



Mustafa Farooq's interest in graffiti grew out of a humanitarian trip to Pakistan.

**“Political graffiti is written with blood, in the sense that people die doing it. Graffiti suddenly becomes really important—something that can't be underestimated or underplayed.”**

Mustafa Farooq

Roger S. Smith Undergraduate Student Researcher Award for his exploration of the ideologies behind graffiti in Pakistan, where a can of paint can thin the line between life and death.

and even walls of private residences, had names of political parties or symbols written on them.

The graffiti is used by the Pakistani army, militant groups, political parties and their supporters

happened, his family starved," says Farooq, adding that as they spoke, the baker was painting the Pakistani flag on the garage door of his home.

Farooq, who was advised by political science professor Linda Trimble, says he encountered difficulties writing a research paper on a topic that hasn't yet been explored in an academic context. One challenge was the dearth of secondary sources to refer to. He relied on

information gathered from people who were willing to speak to him, but many feared violent reprisal.

"Political graffiti is written with blood, in the sense that people die doing it," says Farooq, who hopes eventually to publish his research. "Marking areas with certain party slogans means that area becomes a militarized zone. Graffiti suddenly becomes really important—something that can't be underestimated or underplayed."

## T. rex's killer smile revealed

Brian Murphy



Miriam Reichel's research shows that the T. rex's front teeth gripped and pulled, while the teeth along the side of the jaw punctured and tore flesh.

One of the most prominent features of life-size models of Tyrannosaurus rex is its fearsome array of flesh-ripping, bone-crushing teeth.

Until recently, most researchers who studied the carnivore's smile only noted the varying sizes of its teeth.

But University of Alberta paleontologist Miriam Reichel discovered that beyond the obvious size difference in each tooth family in T. rex's gaping jaw, there is considerable variation in the serrated edges of the teeth.

"The varying edges, or keels, not only enabled T. rex's very strong teeth to cut through flesh and bone," says Reichel, "the placement and angle of the teeth also directed food into its mouth."

Reichel analyzed the teeth of the entire tyrannosaurid family of meat-eating dinosaurs and found T. rex had the greatest variation in tooth morphology or structure. The dental specialization was a great benefit for a dinosaur whose preoccupation was ripping other dinosaurs apart.

Reichel's research shows that the T. rex's front teeth gripped and pulled, while the teeth along the side of the jaw punctured and tore flesh. The teeth at the back of the mouth did double duty: not only could they slice and dice chunks of prey, they forced food to the back of the throat.

Reichel says her findings add strength to the classification of tyrannosaurids as heterodont animals, which are animals with teeth adapted for different functions depending on their position in the mouth.

One surprising aspect of T. rex teeth, common to all tyrannosaurids, is that they weren't sharp and dagger-like. "They were fairly dull and wide, almost like bananas," said Reichel. "If the teeth were flat, knife-like and sharp, they could have snapped if the prey struggled violently when T. rex's jaws first clamped down."

Reichel's research was published in *The Canadian Journal of Earth Science*.

## Prof wins trip for tale from his days when daddy knew best

Meryl Friedland

**P**laying horsey with the kids doesn't usually get a person very far.

But it will for English professor and author Thomas Wharton. His short story, *Horsey*, based loosely on his experiences as an at-home dad almost two decades ago, has earned him the Cécile E. Mactaggart Travel Award for Narrative Writing. The award gives Wharton \$12,000 for a trip of his choosing. Wharton, an accomplished novelist, has just released his fifth book, *The Fathomless Fire*. It's the second in his *Perilous Realm* fantasy trilogy for young adults. With the third book of the trilogy already in the final stages of creation, Wharton has begun research for his next work and says the award offers a great opportunity.

**“I was thinking about the kinds of issues today and how they might affect somebody who is a new dad bringing up a little child. It's a scary time in the world for lots of reasons. I have these same worries myself.”**

Thomas Wharton

The Mactaggart award was established in 1999 with a gift from local philanthropist Cécile Mactaggart, who wanted to encourage others to experience her passions—travelling and writing. The annual competition alternates between teaching staff and undergraduate students in the Faculty of Arts.

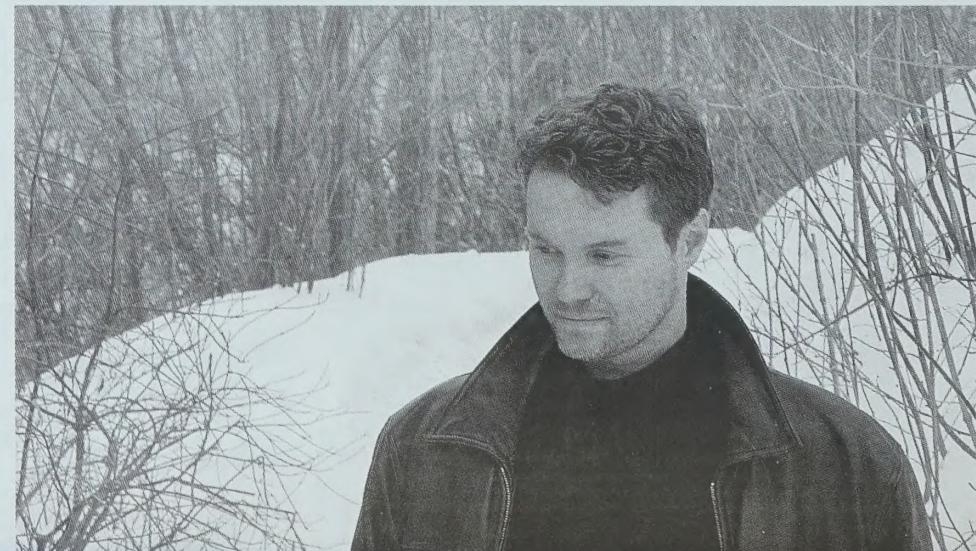
Greece is a long way from Peace River, the location of Wharton's at-home dad days. The inspiration for *Horsey* came from a real-life dads' club he was part of with other at-home dads in his area. That was years ago—his children are now 10, 16 and 10—but, his story takes place in the present and deals with contemporary worries, such as the oilsands, layoffs, the troubled economy and changing parental and gender roles.

"I was thinking about the kinds of issues today and how they might affect somebody who is a new dad bringing up a little child," he explains. "It's a scary time in the world for lots of reasons. I have these same worries myself. I worry a lot about the way the world is going."

Wharton says contemporary issues aren't so disconnected from the Atlantis myth and points to natural disasters the world has witnessed recently. "All over the world, there are places that are threatened by rising seas. There are all sorts of places a person could go [for] inspiration for a book about Atlantis—even Japan, with the tsunami."

Wherever he ends up travelling is sure to lead to an interesting experience and assist in his craft. Wharton says travelling helps inform writing, though not always in the most obvious ways. "I've found that I'll go somewhere and my creativity will be stimulated by the new surroundings and culture, and I'll take a lot of notes but it may take years for that to sink down and come back up as something I can write about."

"I've been working on a book for a while that's set in a contemporary version of Atlantis. I'm fascinated by that myth, and I thought I would like to visit some of the places that are associated with [it], for example, Greece, Athens, and, if possible, one of the Mediterranean islands, Thera, that is now associated with the myth of Atlantis."



# Co-op student makes helping those in need his business

Erica Viegas

**J**onathan Hayford, a fourth year co-op student, had always dreamed of working abroad. The international business major began looking for overseas work during his third year, applying for jobs through PlacePro and the Education Abroad Office. A short time later, he was working as a management intern at the Aga Khan University Hospital in Nairobi, Kenya.

"Surprisingly, a number of hospital managers were educated in Canada, along with other interns, so the management style was easy to get used to. What really shocked me though, was the volume of people in Kenya who needed medical help,

and the shortage of trained workers and doctors available," Hayford relates. He adds someone had told him that 21 per cent of the global disease burden is in Africa, but only three per cent of the world's medical resources, numbers that motivated him to make a difference through his work there.

During the course of his five months in Kenya, working directly under the Chief Operating Officer of the hospital, Hayford worked on three main projects. The first was research for the operating manual of a private off-campus clinic.

The second, one of his larger projects, was researching mobile health initiatives and creating an implementation preplan; Hayford found this tremendously engaging,

**“**My business education definitely helped me in the way I communicated and created relationships with the people I was working with.”

Jonathan Hayford

especially while learning about successful case studies around the world. The third task was working with a cardiologist to develop a heart symposium in February.

"My business education definitely helped me in the way I communicated and created relationships with the people I was working with."

The trip also taught Hayford about community and spirit. Taking singing lessons, he was welcomed into a local church's 350-voice choir. "That experience was amazing, though I'm not much of a singer. People were dancing on stage, dancing in the audience, and the feeling of passion and praise in the air was really exciting."

Upon returning home, the experience also made him revisit the way he views success and career expectations.

"I'm definitely interested in pursuing international development but am open to whatever that path means in my life. To me, success

is not tangible or material. I want to do something that helps other people at the core of their desires and that encourages them to find meaning and purpose."

Co-operative education at the Alberta School of Business is an experiential learning program in which students alternate periods of study with periods of paid, discipline-related work experience, with a number of international opportunities available. "The help from the co-op office in setting this up was huge—helping with resumes, cover letters and mock interviews. I even used their office for my interview to Kenya," says Hayford. ■

## Girls learn about vast opportunities in IT

Folio Staff

**D**ozens of Grade 9 girls visiting the U of A to learn about information technology got a good idea of the impact they can have as IT engineers.

"We're getting a good general idea about IT," said Stafani Sulaver from Stratford School. "It's really interesting, too."

**“**We want them to understand that IT careers are varied, rewarding and fun."

Deborah Harrop

Sulaver was taking part in a Faculty of Engineering Remote Robot Rally in which two team members working as "engineers" sent instructions to a student "robot" standing on a grid to complete a task. The two "engineers" were unable to see obstacles on the grid or the location of the opposing team's robot on the grid.

The activity resembled NASA engineers sending directions to the Mars rover. And the idea of having a career that allowed you to do such a thing was welcomed enthusiastically.

"I'd love to do that," said student Sarah Higgs. "Controlling the robot would be the coolest part."

Higgs, who was among about 350 Grade 9 girls attending the Women in IT event, added that the exercise opened her eyes to the challenges that go into similar projects in the real world.

That's good news to Deborah Harrop, chair of the annual event's organizing committee.

"We want them to understand that IT careers are varied, rewarding and fun," said Harrop, adding that it is important young women be encouraged to pursue careers in IT.

"From what we've been able to gather, a lot of them think that people in IT are geeks—that they spend their days sitting at computers writing code—but it is so much more than that and it is so varied."

A Faculty of Engineering talk on IT, for example, informed the young students that engineers in IT can solve medical problems by developing technologies and put new tools into the hands of doctors and nurses, or design communication devices, like cell phones or satellites.

"It really opens their eyes to how vast the profession is," said volunteer Brandy Bartlett.

A human resources officer with a local IT company, Bartlett said the sessions "open their eyes to the fact that they can have a career in IT that is related to just about anything they can imagine." ■



Please join President Indira Samarasekera for the  
**2012 PRESIDENT'S STATE OF THE UNIVERSITY ADDRESS**

**ALL ARE WELCOME.**

**THURSDAY, MARCH 22, 2012 | 12:30 PM – 1:30 PM**  
**LOCATION: L1-490 EDMONTON CLINIC HEALTH ACADEMY (ECHA)**

Please register online at  
[www.president.ualberta.ca/2012stateoftheuniversity](http://www.president.ualberta.ca/2012stateoftheuniversity)  
With questions, contact 780.492.1525 or sheila.stosky@ualberta.ca



*"uplifting the whole people"*

— HENRY MARSHALL TORY, FOURTH PRESIDENT, 1908

## 'This is mission control, we have liftoff'

Brian Murphy

**P**aper airplanes, Bunsen burners and popsicle-stick bridges are just some of the props used by a University of Alberta outreach group to bring Edmonton-area schoolgirls closer to the world of science.

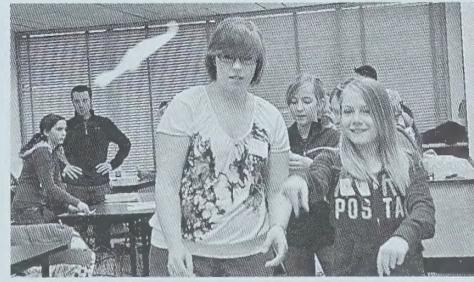
About 600 Grade 6 girls took part in the 22<sup>nd</sup> annual Choices Conference hosted by the U of A-based Women in Scholarship, Engineering, Science and Technology, or WISEST.

Using laboratory space freed up by reading week, WISEST volunteers gave school kids some hands-on fun with more than a dozen different science activities. Amanda Marchak, a first-year U of A engineering student and volunteer WISEST instructor, is paying the program back for the science spark it ignited in her when she took the Grade 6 WISEST tour.

"When I came through WISEST, it still seemed that science careers were for guys," says Marchak, "but when I got here all the volunteer instructors were women, and suddenly it was cool for a young girl to be good at math and science."

Marchak's WISEST task was to face a classroom of some 30 Grade 6 girls and talk about the basics of flight. The hands-on part of the demonstration was making paper airplanes.

Lisa Zimmer, a Grade 6 teacher at Belmead School in Edmonton, says she decided on the four students



WISEST volunteer and U of A engineering student Amanda Marchak (left) co-pilots a paper airplane.

she sent to the WISEST event because they're a good fit with the program. "They're always hands on, asking questions and trying to figure out the answer to everything," she says. "It was amazing, because it brought those students closer together, and when they got back to my class they were so enthusiastic."

Kayla Kearney, one of Zimmer's students, says the field trip was a great break from regular class. "To come the university—and it's all girls, too—and do all these things with science—it's really fun."

After an hour of talking about Bernoulli's principle of flight and tossing paper planes, Marchak says she is more committed than ever to being a WISEST volunteer. "It's just so great when you realize you might be taking down a barrier to a Grade 6 girl's future." ■



### Strathcona Foot & Ankle Clinic

Dr. A Kruszelnicki, DPM  
Dr. J. Prosen, DPM

- Custom Orthotics
- Sports Medicine & Injuries
- Bunions & Hammertoes
- Heel & Arch Pain
- Diabetic Foot Care
- Plantar Warts
- Ingrown or Fungal Toenails

No Referral Necessary  
Strathcona Health Centre  
8225 - 105 Street, Suite 210

**780-430-1869**

# news [shorts]

folio presents a sample of some of the stories that recently appeared on the [ualberta.ca](http://ualberta.ca) news page. To read more, go to [www.news.ualberta.ca](http://www.news.ualberta.ca).

## Beef producers should consider alternative grading system

The system that rates Canadian beef cattle could be beefed up to offer consumers more consistent grading as well as added value to producers, according to U of A economist Sven Anders.

Anders is examining the Meat Standards Australia grading system, which uses 27 different parameters to measure quality throughout each stage of production—from farming to processing. Based on these different criteria and measurements, the meat is graded on a scale of one to five stars and labelled accordingly.

Anders says the current Canadian grading system, in which the carcasses are visually inspected and the meat labelled, cannot provide the same quality assurance as the more extensive MSA system.

“(The Canadian system) is almost like looking at a car from the outside to determine how fast it drives. You don’t see the engine; you don’t know anything else. But you’re making a statement: this car looks fast, it must be fast. This carcass looks great, so it must taste great,” he says.

Anders says this grading system is responsible for the inconsistencies between the labelling and the quality of Canadian beef.

“Fortunately in Canada, the beef quality overall is very good, but sometimes you go to the store and you get a steak that melts on your tongue. The next week you go to the same store and you buy the same cut and it’s just not there. It’s a hit or miss,” he said.

## U of A signs agreement with Université Catholique de Lille

U of A students will now have the opportunity to attend classes in Lille, France, as a result of a new agreement with the Université Catholique de Lille. Representatives from each university signed a memorandum of understanding Feb. 21 launching the new program, which is now accepting applications and will start offering classes in September 2012.

The program will allow students to earn credit for U of A arts courses while living and studying in Lille. Students can choose to attend one or two terms of classes, the first immersed in intermediate and advanced French-language courses and the second in English-speaking classes relevant to Canadian and European studies, such as “Shakespeare’s France” and Canadian literature and film concerned with the First World War. The faculty is considering expanding course offerings in future years to include topics such as medieval art history, European theatre and First World War history.

Heather Zwicker, vice-dean of the Faculty of Arts, was in Lille to sign the agreement. “Our students can only benefit from greater international and inter-institutional collaboration,” she said. “U of A students are among the world’s best, and they deserve opportunities to study around the world. Where better to learn the French language than France itself?”

## Helping others butt out

Steve Patterson, associate chair (academic) in the School of Dentistry, has been chosen as one out of four recipients to win a Barb Tarbox Award of Excellence in Tobacco Reduction.

Patterson has been involved with tobacco-reduction and cessation initiatives for 25 years, as a dental health professional and in a teaching capacity in the Faculty of Medicine & Dentistry. During his tenure, Patterson has been a leader in tobacco control in Alberta, especially in the fields of oral health and tobacco cessation. As a faculty member, and through his professional organization, Patterson has helped to better integrate tobacco cessation within the practice of dentistry and dental hygiene.

“Barb Tarbox was a tremendous advocate against smoking and the harm it does,” said Patterson. “It is a great honour to receive an award with her name on it, and to receive the award from her daughter. It signifies the value of all of our efforts to help improve the health of Canadians through tobacco-reduction activities.”

Winners were selected based on the significant impact they had in tobacco reduction. Of the four award categories—Rising Star, Scholarship, Recognition and Group awards—Patterson won in the Recognition category.

## Former president to receive royal award

Myer Horowitz, president of the U of A from 1979 to 1989 and famed education researcher, has been notified by the Office of the Governor General that he will be receiving the Queen Elizabeth II’s Diamond Jubilee Medal.

The Queen Elizabeth II Diamond Jubilee Medal is a tangible way for Canada to honour Her Majesty for her 60 years of service to Canada. The award also serves to recognize significant contributions and achievements by Canadians.

## President Samarasekera talks about virtues of global partnerships in tackling world’s problems

Jamie Hanlon

A partnership between the University of Alberta and Germany’s Helmholtz Association is dedicated to a long-term collaboration to solve energy and environment issues. That was the message delivered to some 100 attendees at a press event at the American Academy for the Advancement of Science conference, held Feb. 16-20 in Vancouver.

U of A President Indira Samarasekera and Helmholtz President Jürgen Mlynek spoke of the need for interna-

“He said ‘don’t skate to where the puck is, skate to where it’s going to be,’ said Samarasekera. “The ‘puck’ is going to be in places where you have international collaboration solving great problems.”

She spoke of the partnership’s key areas—exploring geothermal energy, carbon capture and storage, water treatment, land reclamation and heavy oil upgrading—and their relation to energy and the environment, adding Helmholtz’s experience with geothermal energy is of particular interest to Alberta.

**“(Wayne Gretzky) said ‘don’t skate to where the puck is, skate to where it’s going to be.’ The ‘puck’ is going to be in places where you have international collaboration solving great problems.”**

Indira Samarasekera

tional co-operation on issues of mutual importance and of solid partnerships that seek solutions to local and global concerns.

The Helmholtz Association is Germany’s largest scientific research organization, with more than 31,000 staff working in 18 scientific-technical and biological-medical research centres. The U of A has been partnered with the association since 2009.



President Indira Samarasekera speaking at a conference in Vancouver.

Mlynek said the overall goal of the partnership is ultimately to reduce humans’ impact on the environment.

He said last year’s nuclear disaster at Japan’s Fukushima plant in the wake of an earthquake and tsunami has given new impetus to move toward renewable energy.

“In Germany, after Fukushima, there was a decision to get out of nuclear energy by 2022,” he said. “There is now new momentum (in the field of renewable energy), so we are interested in renewables and the efficient use of energy and energy conversion.”

As the topic turned to Alberta’s oilsands, Samarasekera said the biggest challenges and opportunities that need exploring are tailings ponds, land reclamation and greenhouse gas emissions.

“What’s exciting about it is that it’s not about the oilsands, it’s about energy worldwide,” she said. “It’s broader than the oilsands, but the oilsands is a particular opportunity because there are some 170 billion barrels of oil located subsurface that’s going to be needed to bridge to a low-carbon, fully renewable energy future.” ■

## Dispelling the lone-scientist myth of big science

Jamie Hanlon

**B**ig science requires a coalition of the willing, technically capable and financially and politically connected, says Robert Smith, a University of Alberta professor who studies the history of science and technology. Smith delivered his observations on scientific megaprojects during a lecture at the American Association for the Advancement of Science conference in Vancouver, Feb. 16-20.

Smith noted that in the last 100 hundred years, the notion of the lone scientist working on a single project has morphed into the public view of teams of scientists working large-scale projects. He noted that while public perception and the reality of scientific practice were not always equal, development of large-scale projects such as the cyclotron and, later, the Hubble telescope helped change the public notion of scientific research and discovery.

“The lone-scientist image speaks to the endless pull of the scientist as individual, yet scientific practice over the centuries has very often been a practice that involves teamwork and large groups,” said Smith.

Many consider the Second World War as the turning point for “big science”—as in funded, co-operative scientific development—but Smith points to the 1930s and the development of the first cyclotron as an early example of co-operation. The cyclotron was also an example of how public and corporate funding began to play a role in driving scientific research and discoveries.

Smith notes cyclotron designer Ernest Lawrence’s own design was largely what drove the research push early on.

“This was a shift driven by Lawrence’s lust for ever-bigger machines, not a methodical, carefully planned scientific attack on particular problems,” Smith said. “Rather like Kevin Costner in *Field of Dreams*, ‘build and they will come’—and ‘they’ will be scientific discoveries if you build bigger and more powerful machines.”

The term “big science” was coined by American nuclear physicist Alvin Weinberg in the early 1960s, Smith



Robert Smith in Vancouver.

noted. According to Weinberg, it was not only a cultural statement but a phenomenon that required significant financial and education choices. But Smith noted that Weinberg’s definition was limiting and didn’t consider examples from as far back in history as the 1300s, for example, in China’s astronomical bureau.

Smith pointed to the Hubble Space Telescope to illustrate the notion of “scientists as coalition builders.” Every aspect of the Hubble, from planning to access, was a co-operative effort, he said. That co-operation also kept the telescope alive when there were suggestions of scrapping it because of its flawed mirror.

Smith compared Hubble to the ill-fated Superconducting Supercollider in Texas. He suggested a weak coalition and a lack of international partnership may have played a role in its cancellation by U.S. Congress in 1993.

If there were a recipe for a successful science megaproject, Smith said, it would include patience—and having political, financial and institutional ducks in a row.

“You’ve got to make it technically and politically feasible,” he said. “Patronage really matters. It’s not simply a matter of getting support to proceed and then forgetting it, because a project like an SSC or Hubble has to be sold again and again and again.”

“You have to keep a coalition in the field. The leaders and the people involved will shift over time, because it takes a long time for these projects to actually get built.” ■

# talks & events

Talks & Events listings do not accept submissions via fax, mail, email or phone. Please enter events you'd like to appear in folio and at [www.news.ualberta.ca/events](http://www.news.ualberta.ca/events). A more comprehensive list of events is available online at [www.events.ualberta.ca](http://www.events.ualberta.ca). Deadline: noon one week prior to publication. Entries will be edited for style and length.

## UNTIL MARCH 20

**Ally Sloper and C.H. Chapman.** Alexander "Ally" Sloper is the madcap fictional character who appeared in British serialized comics between 1867 and 1916. This exhibit, on display in the Bruce Peel Special Collections Library, highlights a sampling of Sloper's most memorable antics from Ally Sloper's Half Holiday, further enriched with a biography of Charles Henry Chapman and original pen-and-ink drawings on loan from Chapman's descendants.

## UNTIL APRIL 5

**Passive Voice & Cookies.** The Centre for Writers invites everyone every Thursday for a free workshop on the English language. 2–3 p.m. 1–23 Assiniboia Hall. Please visit <http://www.c4w.arts.ualberta.ca> for other free workshops topic and time.

## MARCH 2

**Anthropology – Frucht Memorial Department Lecture.** The Good, the Bad, and the Bearded: Popular Images of archaeologists and how we see ourselves, or, are archaeologists their own worst enemies? Talk will be given by Larry Zimmerman, professor of Anthropology and Museum Studies Public Scholar of Native American Representation/Eiteljorg Museum Indiana University-Purdue University Indianapolis. 3–5 p.m. Tory Breezeway.

The Department of Music presents Steinway Artist Alan Chow. 8–10 p.m. Convocation Hall, Old Arts Building Arts.

## MARCH 3

**Breaking the Myths: Education and Literacy in Africa.** It is reiterated that education for women and children is the best tool for development. While it may not be a panacea for all that developing nations require, it can be seen as a fundamental building block for a stronger society. However, what is being done to implement this simple, yet necessary, measure? Hosted by Aimbabazi Children's Project – University of Alberta Chapter. 1–4 p.m. Telus Centre Rooms 217/219.

Kilburn Memorial Concert Series presents the 2011/12 Visiting Quartet

in Residence: Afriara Quartet. 8–10 p.m. Convocation Hall, Old Arts Building Arts.

## MARCH 4

**Cabane à Sucre.** Come celebrate the season with a Sweet Canadian Twist. The Alumni Affairs office, in conjunction with Campus Recreation, will recreate the Quebec family tradition of Cabane à Sucre in Hawrelak Park. Bring your family out to enjoy "La Tire" (Maple Toffee), horse-drawn sleigh rides, skating, snowshoeing and music. 1–3:30 p.m. Call 780-492-0866 or e-mail [colleen.elliott@ualberta.ca](mailto:colleen.elliott@ualberta.ca) to register.

**A Country House Weekend: An English Idyll in Four Days and a Prologue.** This art-song performance series, is, without a doubt, one of this season's must-hear events. \$20 adults, \$15 seniors and \$10 students. 2–5 p.m. Convocation Hall, Old Arts Building.

The Department of Music presents John Sampen, saxophone professor at Bowling Green State University, with Roger Admiral, piano. 7–9 p.m. Studio 27, Fine Arts Building.

## MARCH 5

**Monday Noon Music** features everything from western classical to world music and features performances by the Department of Music, led by area coordinator Elizabeth Turnbull. Arts and Convocation Hall.

**History & Classics Public Lecture.** Putting History Back in History of Religion: The Socio-Political Context of Ancient Indian Religions, delivered by Patrick Olivelle, professor of Sanskrit and Indian Religions, University of Texas at Austin. This talk will deal with how we can responsibly teach the history of religion in a public university and in a academic setting, taking as an example the history of Indian religion during the second half of the first millennium BCE. 7–10 p.m. 5–04 Business Building Arts | Uncategorized

**The 15th Annual Salute to the Bands.** The U of A and Grant MacEwan Jazz Bands present this tribute to the great swing bands of the 30s and 40s. 8–10 p.m. Convocation Hall, Old Arts Building. Admission by donation at the door.

## MARCH 5 & 6

**ALSA Aboriginal Speaker Series.** Treaty Negotiations or Rights Legislation: Tough Choices will be given by Sophie Pierre, chief Commissioner of the British Columbia Treaty Commission, a body which supervises and facilitates treaty negotiations that involve government and First Nations groups. Noon–1 p.m. in room 231/237, Law Centre.

## MARCH 6

**U of A Innovative Leaders Lecture Series.** Darren Entwistle, president and CEO of TELUS will be on hand to speak at the TELUS Centre. 4–5:30 p.m.

**History & Classics Lecture.** The Indian Machiavelli: Compositional and Political History of Kautilya's Arthashastra will be presented Patrick Olivelle, professor of Sanskrit and Indian Religions, University of Texas at Austin. This text is the oldest treatise on Law and Governance, or on Political Science, from ancient India. 5–7 p.m. 5–04 Business Building Arts.

## MARCH 7

**Canada Council for the Arts: Killam Prize and Fellowship Information Session.** 10:30–11:30 p.m.

**When Meteorites Fall on Snow: Unique Scientific Opportunities** presented by Chris Herd, curator of the U of A Meteorite Collection and one of Canada's foremost experts on meteorites. Herd will speak about the Bruderheim meteorites on display in the museum's Cool Stuff exhibition. Noon–12:45 p.m. 1–200 Enterprise Square.

**MLCS – Poetry Reading: Tranströmer's Poetic Transformations.** Swedish poet, Tomas Tranströmer, 2011 Nobel Literature Prize Recipient, will be on hand to read some of his poems. 3–4 p.m. Old Arts Building main foyer.

## MARCH 8

**ALSA 2012 Speaker series** presents guest speaker Clint Davis, Canadian Council for Aboriginal Business. Noon to 1 p.m. Room 231/237, Law Centre.

**Dept of Economics Micro Seminar.** Steeve Mongrain of Simon Fraser University. 3:30–5 p.m. 8–22 HM Tory Building.

## MARCH 9

**ALSA 2012 Speaker series** presents An Integrated Approach to First Nations Economic Development presented by guest speakers Roger Smith and Keltie Lambert (Witten LLP. Edmonton). Noon–1 p.m. Room 231/237, Law Centre.

**MunchMUSIC Noon-Hour Recital.** Eat lunch while enjoying the performances of music students and faculty. No charge for admission. 12:15–1 p.m. Augustana Campus (Chapel), Camrose.

## Bearing Witness: Documenting China's Rise.

Award-winning photojournalist Ryan Pyle. Will discuss some of his behind-the-scenes examples and stories from covering stories from China's economic surge. 3–4:30 p.m. TELUS Centre.

**46th Annual Shevchenko Lecture.** Ukraine and the Russian Question will be presented by James Sherr, a senior fellow of the Russia and Eurasia Programme at the Royal Institute of International Affairs (Chatham House) in London. 7–9 p.m. 265 Central Academic Building.

**Music at Convocation Hall** celebrates the Inauguration of the 2011 Krapp Memorial Continuo Organ. 8–10 p.m. Arts and Convocation Hall.

## MARCH 12 TO 15

**The 5th Annual Festival of Teaching.** Excellence in teaching deserves to be celebrated; innovation in teaching needs to be shared. Please visit the Festival of Teaching website for more information: [www.fot.ualberta.ca](http://www.fot.ualberta.ca).

## MARCH 12

**Monday Noon Music.** Arts and Convocation Hall.

**Cinema - Rendez-vous de la francophonie.** In homage to the origins of French culture in North America, Bibliothèque Saint-Jean presents two National Film Board films: «Esprits de famille» preceded by the short film «Sur la route.» 7–9:30 p.m. Auditorium, Campus Saint-Jean.

## MARCH 14

**Educated Luncheon Lecture.** Join us over the lunch hour to listen to a top faculty member and hear about some of the amazing work being done at the U of A. The \$10 fee includes a lunch to go along with this opportunity to learn and network with fellow alumni. Sessions will be held the second Wednesday of each month in room 2–957 Enterprise Square. Noon–1 p.m.

**The Department of Music Lecture Series.** Poetry and the Performance of

the Romantic Lied with adjunct professor Deen Larsen. 2–4 p.m. Studio 27, Fine Arts Building.

## MARCH 15

**Bullying in the classroom.** Part three of four. Aggressors and Victims in the Shadows of Cyberspace: Exploring the Sources of Online Bullying will be presented by Maria Bakardjieva, associate professor in the Faculty of Communication and Culture at the University of Calgary. 7:30 a.m. Telus Centre.

**Nature in Winter in Edmonton.** John Acorn, renowned researcher, broadcaster and curator of the U of A's Renewable Resources Natural History Collection, speak about how nature responds to winter in our city. Noon to 12:45 p.m. 1–200 Enterprise Square.

**iSMSS Inside/OUT Speakers Series.** Little Trannies' Little Mermaid: A Shape-Shifting Tale will be given by Natasha Hurley, assistant professor, Department of English & Film Studies. Her aim is to expand our understanding of how the little mermaid tale offers up a narrative pre-history of the trans-child, while insisting that these elements of abjection and physical bodily pain are essential to both that history and to the present of the trans-child. 5–6 p.m. 7th floor Education North.

**Edmonton Regional Alumni and Friends Reception for Graduates from 1987 through 2011.** 6–8:30 p.m. Solarium in the ETLC Engineering.

## MARCH 16

**Adaptation to changing environments.** This lecture by Rowan Barrett, Department of Organismic and Evolutionary Biology Harvard University. Noon–1 p.m. M149 Biological Sciences.

## MARCH 17

**The University of Alberta Mixed Choir and Faculty of Education Handbell Ringers** present their annual Spring Concert program at Augustana. \$16 (adults)/\$12 (students/seniors)/\$40 (family). 7:30–9 p.m. Augustana Campus (Chapel).

## MARCH 16 & 17

**Augustana Winter Term Drama Production.** Bonjour, Là, Bonjour, by Michele Tremblay. 7:30–9:30 p.m. Augustana Campus Theatre.

## MARCH 18

**Camrose & District Community Band in Concert** Mar 2–3 p.m. Augustana Campus (Chapel).



## Festival of Teaching events

Excellence in teaching deserves to be celebrated; innovation in teaching needs to be shared.

With that, the Fifth Annual Festival of Teaching at the University of Alberta will take place March 12–15.

This year's event will be on North Campus, Augustana Campus and Campus St. Jean. The festival will include a Teaching Fair, where instructors can see presentations in a variety of media on new teaching methods recently introduced or being tested on our campuses, followed by TED-inspired talks on March 12 called Fot Spots, beginning at 4 p.m. at the TELUS Centre atrium, following a teaching fair, which begins at 3 p.m.

Fot Spots is a variation on last year's TED-style Festival Talks. This year, three great U of A professors will each appear on stage with one of their students to talk about inspiration in education. Billy Stream, professor in the Faculty of Physical Education and Recreation and 3M scholar; Janet Wesselius, professor in the Department of Philosophy, Augustana Campus; and Michael Kennard, professor in the Department of Drama, together with their students, will try to answer the questions surrounding inspiration in the classroom. This event will be hosted by Malcolm Azania, aka Minister Faust, a former high school teacher and current author, talk show host, magazine editor and public speaker who deals daily in inspiration.

From there, the festival will be handed to the dozens of teachers who will open their classrooms and laboratories to visitors to give students and professors alike the opportunity to view great teaching and, in some cases, meet with the instructor to discuss the teaching strategies used in the class.

The Festival of Teaching will conclude on March 15 with a keynote closing address and World Café, where festival participants will discuss the effectiveness of different styles of teaching.

The keynote will be given by Larrie Greenberg, a clinical professor in pediatrics at George Washington University School of Medicine and Health Sciences. Among his many honours, Greenberg's achievements as a teacher are particularly telling. He started one of the first office rotations for pediatric residents in 1974, started faculty development and the Master Teachers' program, did the first randomized control trial research on teaching residents how to teach in the late 1970s, and published on the use of standardized patients in the early 1980s with regards to giving bad news to parents.

<http://www.fot.ualberta.ca/>

## ACCOMMODATIONS FOR RENT

**RIVERVIEW TOWERS.** Absolutely everything renovated in turnkey furnished 1 bedroom, 1 bathroom condo. Top of the line renovation with executive style.

\$2,100/month. Call Michael Jenner or Janet Fraser at 780-441-6441 or email [jennfra@interbaun.com](mailto:jennfra@interbaun.com). Gordon W.R. King & Assoc. Real Estate Corp.

**LIVE IN THE HEART OF THE UNIVERSITY.** Executive, 2 bedroom plus den, over 1,400 sq. ft. condo. Beautifully designed with top of the line style. \$2,400/month. Call Michael Jenner or Janet Fraser at 780-441-6441 or email [jennfra@interbaun.com](mailto:jennfra@interbaun.com). Gordon W.R. King & Assoc. Real Estate Corp.

## SERVICES

**BUYING, SELLING, LEASING, CALL ME FIRST.** Connie Kennedy 780-482-6766, 780-940-0414. Pioneer Condominium Specialist. [www.conniekennedy.com](http://www.conniekennedy.com). RE/MAX Real Estate.

**DRINK ENERGY DRINKS, GET PAID!** Email for more information [business@cyberconnections.ca](mailto:business@cyberconnections.ca).

**YOU ARE A RISK MANAGER. REPORT MAINTENANCE CONCERN TO FACILITIES AND OPERATIONS AT 780-492-4833**

# classified ads

**BELGRAVIA.** May 1st occupancy. 3 bedroom house in south Belgravia. \$2,550/month. Dave Richards 780-886-6005.

## CLASSIFIED ADS

**RENTALS** [www.ualberta.ca](http://www.ualberta.ca)

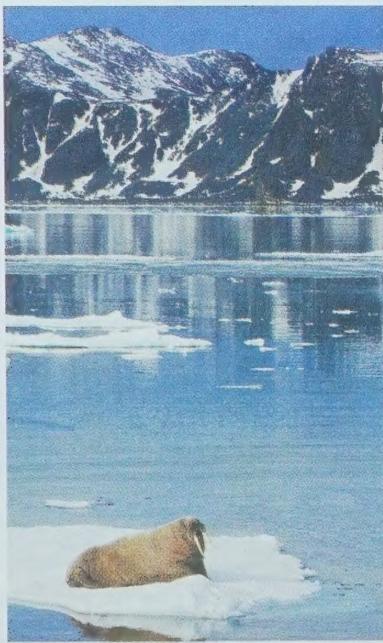
**SELLING** [www.ualberta.ca](http://www.ualberta.ca)

**LEASING** [www.ualberta.ca](http://www.ualberta.ca)

**BUYING** [www.ualberta.ca](http://www.ualberta.ca)



RENNOWNED EXPERT PENS NEW BOOK ON  
**POLAR BEARS**



*the BackPage*

*Polar Bears: A Complete Guide to Their Biology and Behavior* by University of Alberta biologist Andrew Derocher is both a celebration of the Arctic icon's uniqueness and importance and a discourse concerning Canada's responsibility to the species. The text is accompanied by 153 photos taken by internationally renowned wildlife photographer Wayne Lynch.

